



## PLAGUE

<b>Agent Information:</b>	Gram-negative bacteria that can cause pneumonic, bubonic or septicemic infection. The bacterium occurs naturally throughout the world, including the United States. Pneumonic plague is the most likely form that would be encountered after a bioterrorist attack.
<b>Signs and Symptoms:</b>	<p>Incubation period generally is 1-6 days.</p> <p><b><u>Pneumonic:</u></b> Fever, headache and weakness, followed by rapidly developing pneumonia (24-36 hours from onset of illness) with shortness of breath, chest pain, cough, and hemoptysis. The combination of a rapidly progressive influenza-like-illness (ILI) with bloody sputum is highly suspicious of pneumonic plague.</p>
<b>Transmission:</b>	<p><b><u>Pneumonic:</u></b> The transmission of plague as a biological weapon would differ substantially from that of naturally occurring infection. Intentional release would most likely occur via an aerosol. Pneumonic plague can also spread from person-to-person via droplets. May also occur if bubonic or septicemic plague continues untreated and spreads to the lungs.</p> <p><b><u>Bubonic:</u></b> Most common form which occurs naturally when an infected flea bites a person or when contaminated materials enter through a break in a person's skin. Bubonic plague is not spread person-to-person.</p> <p><b><u>Septicemic:</u></b> Can be a complication of pneumonic or bubonic plague or can occur alone. Septicemic plague is not spread person-to-person.</p>
<b>Protective Measures:</b>	<p>Follow appropriate Body Substance Isolation (BSI) precautions, with use of Personal Protective Equipment (PPE).</p> <p><b><u>Pneumonic:</u></b></p> <p><b><u>Standard Precautions:</u></b> Hand washing before and after all patient contacts and contact with patient care equipment.</p> <p><b><u>Contact Precautions:</u></b> Use of gloves, gown and eye protection.</p> <p><b><u>Airborne Precautions:</u></b> In addition to standard precautions, a mask with respiratory protection (i.e. N-95, N-100 particulate respirator) or Powered Air Purifying Respirator (PAPR) should be worn by providers and a surgical mask placed on the patient when not in their hospital room. If equipment is visibly soiled or significant contact has been made with the patient, remove the protective clothing <b>BEFORE</b> entering areas that are not contaminated to prevent transmission of material. Maintain patients in negative pressure isolation rooms. Victims presenting immediately after aerosolized exposure require decontamination.</p>



**Decontamination for PPE  
and equipment:**

Decontamination of protective equipment and clothing is an important precaution to remove any particles that might have settled on the outside of protective equipment before taking off gear. Follow decontamination sequences currently used for hazardous material emergencies as appropriate for the level of protection employed. Equipment can be decontaminated using soap and water. Also, 0.5% hypochlorite solution (one part household bleach to 10 parts water) can be used as appropriate or if gear was visibly contaminated. Note that bleach may damage some types of firefighter turnout gear (one reason why it should not be used for biological agent response actions). After removing gear, response workers should shower using copious quantities of soap and water.

**Prophylaxis:**

- No vaccine of proven efficacy against primary pneumonic plague exists.
- Antibiotic treatment for 7 days will protect people who have direct, close contact with infected persons.

**Treatment:**

- **Immediate:** Antibiotics must be given within 24 hours of first symptoms to reduce mortality.

**Reporting:**

Immediately report any suspect cases to the Division of Public Health, Epidemiology Branch: 1-888-295-5156.

For additional information, view the CDC website: [www.bt.cdc.gov](http://www.bt.cdc.gov).